AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A method of producing a self-supported film of gallium nitride (GaN) using a substrate, by deposition of GaN by epitaxy, the method comprising the following successive steps:

(i) depositing a layer of GaN on a substrate by vapour or liquid phase epitaxy,

(ii) a weakening ion implantation step so as to create a weak area in the layer of GaN deposited during the previous step,

(iii) a step of reworking by epitaxial lateral overgrowth (ELO) in order to form a new layer of GaN, and

(iv) a spontaneous separation step at the weak area to obtain the self-supported film of gallium nitride, wherein the spontaneous separation at the weak area is implemented by return to ambient temperature after the resumption of epitaxy.

2. (Cancelled)

3. (Previously Presented) A method according to claim 1, wherein the deposition of GaN during step (i) is effected by epitaxy by vapour or liquid phase epitaxial lateral overgrowth ELO.

4. (Previously Presented) A method according to claim 3, wherein step (i) is implemented by vapour phase epitaxy technology using halides and hydrides (HVPE), by organometallic pyrolysis vapour phase epitaxy (EPVOM) technology or by sublimation (CSVT).

5. (Previously Presented) A method according to claim 3, wherein step (i) comprises the following steps:

deposition of a layer of GaN,

deposition of a dielectric layer which is etched in order to obtain openings,

deposition of GaN in the areas of GaN located in the openings, and then

deposition of GaN giving rise to a lateral overgrowth until the patterns of GaN coalesce.

6. (Previously Presented) A method according to claim 3, wherein step (i) is a step of spontaneous ELO which comprises the following steps:

deposition of silicon nitride to a thickness of around 10 to 20 nm,

deposition of a continuous buffer layer of GaN, annealing at a high temperature of between 1050° and 1120° C so that the buffer layer converts from a continuous layer to a discontinuous layer formed from patterns of GaN in the form of islands, and then

deposition by epitaxy of GaN.

7. (Previously Presented) A method according to claim 6, wherein the implantation is effected either in the islands, or at an intermediate stage where the islands are not entirely coalesced, or after total coalescent of these islands.

8. (Previously Presented) A method according to claim 1, wherein the implantation ions can be chosen from amongst H^+, ions of rare gas such as helium, neon or krypton, as well as boron.

9. (Previously Presented) A method according to claim 1, wherein the implantation energies can vary from 80 to 160 kev.

10. (Previously Presented) A method according to claim 1, wherein the ions implanted in the layer of GaN are H^+ ions.

11. (Previously Presented) A method according to claim 1, wherein the implantation ions are H^+ ions and the H^+ ion implantation dose varies from 10^{16} to 10^{17} cm^{-2}.

12. (Cancelled)

13. (Previously Presented) A method according to claim 1, wherein the depth of implantation varies from 50 nm up to the GaN/initial substrate interface.

14. (Previously Presented) A method according to claim 1, wherein the substrate is chosen from amongst sapphire, ZnO, 6H-SiC, $LiAlO_2$, $LiAlO_2$, $LiGaO_2$, $MgAlO_2$, Si, GaAs, AlN or GaN.

15. (Previously Presented) A method according to claim 14, wherein the substrate is a

sapphire substrate.

16. (Previously Presented) A method according to claim 1, wherein the epitaxial lateral overgrowth according to step (iii) as defined in claim 2 is performed by EPVOM, HVPE or CSVT epitaxy or liquid phase epitaxy (LPE).

17. (Previously Presented) A method according to claim 1, wherein the gallium nitride is doped during at least one of the epitaxial lateral overgrowth steps by means of a doping substance which may be chosen from amongst magnesium, zinc, beryllium, calcium, carbon, boron or silicon.

18-23. (Cancelled)